

firmation. Mr. Cossart's collection from Bugio (1921) consists of the following forms:

Plebecula vulgata saxipotens (Woll.). Six.

P. punctulata avellana (Lowe). Common.

Geomitra micromphala (Lowe). Six.

G. polymorpha poromphala (Lowe). The most abundant shell.

G. coronula (Lowe). Two examples of this beautiful little species.

G. actinophora descendens (Woll.). This form can only be segregated on average characters, I think. Three were found.

OREOHELIX MACULATA, NEW SPECIES.

BY JUNIUS HENDERSON.

In 1917 I collected several species of *Oreohelix* in abundance in Shell Creek Canyon and White Creek Canyon, northern Wyoming. The first-mentioned canyon is the type locality of *O. pygmaea* Pilsbry, and the other, near by, is the only other recorded locality for that species. Supposing that I was at the type locality of *pygmaea*, and misled by the size and shape of the smallest species of *Oreohelix* I found there, the specimens were labeled *pygmaea* in the field and so designated in the field notes. Apparently they were not re-examined upon returning to Boulder, but were unfortunately placed in a drawer and published as *pygmaea* (NAUTILUS, XXVII, pp. 45-46), and specimens have since been distributed in exchange to several conchologists and institutions under that name. A few days ago I examined a few of them with a lens, just after looking at some true *pygmaea*, and at once saw that they bear no very close resemblance to that form or to any other described *Oreohelix*. Indeed, the difference may be readily seen without a lens. An examination of the records in comparison with the latest map of the region also shows that the *pygmaea* localities are several miles farther up both canyons than our 1917 stations, and none of the material found in 1917 is *pygmaea*.

OREOHELIX MACULATA, new species.

Shell below medium size for the genus, spire elevated, whorls $5\frac{1}{2}$, with convex periphery, somewhat flattened above near the suture, resulting in a deeply impressed suture, convex below. Embryonic whorls dark brown in most examples, at first nearly smooth, with very fine growth-lines crossed by microscopic spiral lines, which, at about the beginning of the third whorl, develop into beaded ribs easily detected with a low-power lens. The last two whorls of the shell bear numerous rather strong, rude, blunt, irregular ribs, parallel with the growth-lines, crossed by about equally numerous rude spiral ribs, this sculpture being especially well developed on the base of the last whorl. This sort of sculpture is typical of the *depressa-cooperi* group, as distinguished from the sharp-ribbed *haydeni* group, but the sculpture is very much stronger in *maculata* than is usual in either *depressa* or *cooperi*, and the two latter are smoother below than at the periphery and above, while in *maculata* the opposite is true. Aperture rounded, outer and inner lips approaching. Umbilicus deep and narrow. Color exceedingly variable, a large number seen collectively appearing quite dark because of a preponderance of brown. The great majority of examples have irregular, poorly defined light brown patches on a white ground color, particularly noticeable under a lens, with usually one spiral band or more of the same color above the periphery and stronger bands of darker brown, varying in width and number, just below the periphery and on the base. A few albinos were found, without intergradation to the typical color, as is also true of *O. cooperi obscura* at the same locality. A considerable number of examples are almost entirely dark brown, but, except in a very few specimens, there is a wide, conspicuous lighter band at or just above the periphery of the melanistic shells, which shows just above the suture on the spires.

Type, width, 14 mm.; height, 11.5 mm. Univ. Colo. Mus.

Cotype No. 1, width, 13.5 mm.; height, 10.8 mm. Univ. Colo. Mus.

Cotype No. 2, width, 14 mm.; height, 11 mm. Univ. Colo. Mus.

Cotype No. 3, width, 12.8 mm.; height, 10.6 mm. Univ. Colo. Mus.

Cotype No. 4, width, 13 mm.; height, 10.8 mm. Univ. Colo. Mus.

Cotype No. 5, width, 13.5 mm.; height, 12 mm. Univ. Colo. Mus.

Cotype No. 6, width, 14 mm.; height, 10.8 mm. A. N. S. Phila.

No. 5 is a melanistic example with no light band.

GLOCHIDIA IN SURFACE TOWINGS.

BY H. W. CLARK AND SAMUEL STEIN.

In their article on "Reproduction and Parasitism in the Unionidæ," by LeFevre and Curtis (Journ. of Experimental Zoology, Vol. IX, No. 1, p. 98), under the caption, "Behavior and Reactions of Glochidia," occurs the following statement:

"At the time of spawning the glochidia, already free from the egg-membranes and more or less loosely held together in slimy strings, are discharged at irregular intervals through the exhalent siphon. Being heavier than water, they sink rapidly to the bottom, coming to rest with the outer surface of the shell directed downward and the valves gaping widely apart." The belief was formerly general that they "swim" about by rapidly opening and closing the valves, after the manner of Peeten, and in spite of frequent denials by Schierholz ('88), Latter ('91) and others, the same statement is still occasionally encountered. In the recent volume on Mollusca in the Treatise on Zoology, edited by Lankester, this inexcusable error is represented. "The glochidia," we are again informed, "swim actively by clapping together the valves of the shell" (p. 250). They are, on the contrary, as is now well known, entirely incapable of locomotion and remain in the spot where they happen to fall, and that "The